

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1 1. (Currently amended) An information recording and reproducing apparatus
2 which irradiates an information recording medium with oscillated laser light to form a recorded
3 region in a recording area on the information recording medium, said recorded region being
4 physically different from the region where information has not been recorded, so that
5 information can be recorded onto the information recording medium and reproduced or erased
6 therefrom, said apparatus comprising:

7 a detecting circuit configured to detect means for detecting amplitude information
8 from a reproduced signal formed by the oscillated laser light;

9 a converting circuit configured to convert means for converting the detected
10 signal amplitude information to a digital signal; and

11 a calculating circuit configured to calculate means for calculating on the digital
12 signal obtained such that a recording condition of the oscillated laser light is adapted;

13 wherein the recording condition is previously recorded on the recording medium,
14 the recording condition including a linear recording velocity of the oscillated laser light, a
15 recording power of the oscillated laser light, amplitude information of the reproduced signal, an
16 asymmetry of the recording power, a change ratio of the amplitude information to the recording
17 power of the oscillated laser light, and a change ratio of the amplitude information to the linear
18 recording velocity, and

19 wherein the recording power for information recording and reproducing is
20 adapted by using the recording condition recorded on the recording medium as amplitude
21 information of the reproduced signal and the change ratio of the amplitude information to the
22 recording power.

1 2. (Currently amended) ~~An~~The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording
3 velocity by:

4 reading from the recording medium the recording condition recorded on the
5 recording medium as amplitude information of the reproduced signal and the change ratio of the
6 amplitude information to the recording power;

7 calculating a recording condition appropriate for the linear recording velocity by
8 using amplitude information of the reproduced signal associated with at least two linear
9 recording velocities and the change ratio of the amplitude information to the recording power;
10 and

11 setting the recording power accordingly for information recording and
12 reproducing at said linear recording velocity.

1 3. (Currently amended) ~~An~~The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted by:

3 reading from the recording medium the recording condition recorded on the
4 recording medium as amplitude information of the reproduced signal and the change ratio of the
5 amplitude information to the recording power;

6 before recording normal information, obtaining checking the change ratio of the
7 amplitude information to the recording power, which is appropriate specific to the information
8 recording and reproducing apparatus concerned; and

9 during recording normal information, adapting the recording power for
10 information recording and reproducing by using the obtained change ratio of the amplitude
11 information to the recording power, which is specific to the information recording and
12 reproducing apparatus concerned.

1 4. (Currently amended) ~~An~~The information recording and reproducing
2 apparatus according to Claim 1, wherein the recording condition is adapted for a linear recording
3 velocity by:

4 reading from the recording medium the recording condition recorded on the
5 recording medium as amplitude information of the reproduced signal and the change ratio of the
6 amplitude information to the recording power;

7 before recording normal information, obtaining ~~checking~~ the change ratio of the
8 amplitude information to the recording power for at least two linear recording velocities, which
9 is appropriate to the apparatus~~specific to the information recording and reproducing apparatus~~
10 ~~concerned~~;

11 calculating a recording condition appropriate for said linear recording velocity by
12 using ~~the obtained change ratios~~~~at least two change ratios of the amplitude to the recording~~
13 ~~power for the corresponding linear recording velocities, which are specific to the information~~
14 ~~recording and reproducing apparatus concerned~~; and

15 during recording normal information, adapting the recording power for
16 information recording and reproducing by using the obtained change ratio of the amplitude
17 information to the recording power

18 setting the recording power accordingly for information recording and
19 reproducing at said linear recording velocity.

1 5. (Currently amended) An information recording medium in which
2 information can be recorded onto the information recording medium and reproduced or erased
3 therefrom by irradiating the information recording medium with oscillated laser light to form a
4 recorded region in a recording area on the information recording medium, said recorded region
5 being physically different from the region where information has not been recorded,

6 wherein:

7 a recording condition comprising at least a linear recording velocity, recording
8 power and amplitude information of the reproduced signal is previously recorded; and

9 information about the change ratio of the amplitude information to the recording
10 power at said linear recording velocity is previously recorded.

1 6. (Currently amended) An information recording medium in which
2 information can be recorded onto the information recording medium and reproduced or erased
3 therefrom by irradiating the information recording medium with oscillated laser light to form a
4 recorded region in a recording area on the information recording medium, said recorded region
5 being physically different from the region where information has not been recorded,

6 wherein:

7 a recording condition comprising at least a plurality of plural linear recording
8 velocities, a plurality of plural recording powers and a plurality of plural pieces of amplitude
9 information of the reproduced signal is previously recorded; and

10 information about the change ratio of the amplitude information to the recording
11 power at each of the plurality of plural linear recording velocities is previously recorded.

7. 7. (Currently amended) An information recording medium in which
information can be recorded onto the information recording medium and reproduced or erased
therefrom by irradiating the information recording medium with oscillated laser light to form a
recorded region in a recording area on the information recording medium, said recorded region
being physically different from the region where information has not been recorded,

 wherein:

 a recording condition comprising at least a plurality of plural linear recording
velocities, a plurality of plural recording powers and a plurality of plural pieces of amplitude
information of the reproduced signal is previously recorded; and

 information about the change ratio of the amplitude information to the recording
power at a linear recording velocity in the recording-possible linear recording velocity range and
information about the change ratio of the amplitude information to the linear recording velocity
in the recording-possible linear recording velocity range are previously recorded.